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HINTS TO OUR PATRONS.

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HINTS TO OUR PATRONS.

*Read before the Dental Association of Ontario, at
Toronto, January 23rd, 1868.*

BY C. S. CHITTENDEN,

DENTIST,

HAMILTON, ONTARIO.

THE DECIDUOUS OR TEMPORARY TEETH.

In the first or deciduous set, there are twenty teeth, ten in each jaw, and are classified as follows, viz: four incisors or cutting teeth, two eye teeth, and four molars.

There is no precise age at which they make their appearance, though there is a general law with regard to their eruption, which is as fixed as the laws concerning any other portion of the body; so that, if there be no interruption, from any cause, the four central incisors will appear at from the fifth to the eighth month after birth; the four lateral incisors from the seventh to the tenth; the four anterior molars, (stomach teeth) from the twelfth to the sixteenth month; the eye teeth (cuspiditi or canines) from the fourteenth to the twentieth, and the posterior molars from the twenty-fourth to the thirty-sixth.

There have been numerous cases recorded of children having one or more teeth at birth, as well as of their eruption having been retarded to even as late a period as the tenth year. Mons. Maury relates the case of a girl at Bagnieres, in France, whose teeth all came in, in their proper time except the central incisors in the lower jaw, which did not show themselves till after the child was seven years of age. Not long since a child, three years of age, was brought to me for advice, in whose mouth there were no teeth but the posterior molars.

Such cases are rare, and must be considered as freaks of nature, till science shall be far enough advanced to give us a better reason.

The roots of the deciduous teeth are fully as long and large as those of the second or permanent set, in proportion to the size of the teeth.

MORBID EFFECTS OF DENTITION.

The eruption of the teeth being one of the spontaneous acts of nature, and according to certain Physiological laws, must not be considered as a disease.—When naturally performed in a child, born of healthy parents, with a strong and vigorous constitution, and under the favorable circumstances of a generous diet plenty of fresh air and exercise, the cutting of the teeth seldom produces any unpleasant sensations whatever, or at least none to attract particular attention. But, unfortunately, all children are not blest with such favorable conditions. “The truth seems to be,” says Dr. Bond, “that a great number of children are born into the world so feebly or disproportionably constituted that they are not capable of maturing. Most of

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these necessarily perish during childhood, by some of the many forms of disease common to that period. Many others, though born with sufficient vigor, are reduced by bad diet and defective management to a condition which readily yields to irregular or morbid agents. Dentition demands a certain amount of constitutional energy to accomplish it. The rapid development of any organ does this. This demand is the severest test of functional and organic completeness in the child, and many will not bear it. The development of the teeth determines an unusual flow of blood to the head. This happens at a time when the brain is proportionately large, and undergoing rapid evolution. Independently of dentition, this period of life is attended by strong tendency to cerebral affections, and to pulmonary and abdominal complications. The nervous and vascular systems are, in a child of this age, remarkably active. The several organs have to perform not only their functions and the preservation of their entireness but also rapid growth. Animal life is therefore exalted with all its qualities. Among these are sensibility and sympathy; the capacity to be impressed and to propagate impressions. Hence, a slight cause may produce great local or constitutional effects, and disease of any kind may induce sympathetic or constitutional disorder apparently much out of proportion to its intensity or importance."

Dr. C. A. Harris, in speaking of the effects of first dentitions, says: "During the period of teething, the child is restless and fretful, but its paroxysms of suffering are periodical, and seldom last more than two or three hours at a time. The repose thus afforded ena-

bles the system to recover in some degree from the exhaustion occasioned by each preceeding paroxysm. If it were not for this, its excited energies would soon be worn out, and the child fall a victim to the continued intensity of its sufferings. When the irritation is merely local, it is usually of short duration, and consists in a slight tenderness and tumefaction of the gums, accompanied by increased secretions of saliva. But when the irritation is so severe as to affect the functional operations of other parts of the system, febrile symptoms, of a general and more or less aggravated character, supervene, attended with drowsiness, diarrhoea and not unfrequently, with various cutaneous eruptions on different parts of the body, called red gum; at other times, of pustules, which are at first filled with a limpid fluid, but, which, afterwards, become purulent. The former appear on the neck and face; the latter are not confined to any particular part of the body, but, are either thinly scattered over its whole surface, or appear in small patches. There is also another kind of eruption which breaks out about the mouth, cheeks and forehead, and sometimes extends to the scalp, which, in a short time dries up and becomes covered with disagreeable scabs. These soon drop off, to be succeeded by others. To these symptoms we may add cough, spasms of the muscles of the face, particularly those about the mouth, and, when the diarrhoea is so copious as to occasion great emaciation, convulsions and death sometimes supervene. Thus far we have merely glanced at a few of the effects of first dentitions. To attempt a description of all, would involve the whole catalogue of diseases peculiar to infancy."

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Although the treatment of disease is not the province of the Dentist, it may not be improper to say that the lancing of the gums freely, will in most cases give instant and permanent relief. Cold or tepid baths, according to the strength of the child, are very soothing, and serve to allay the intense heat which usually attends difficult dentitions. The Family Physician should be consulted as soon as any unpleasant symptoms manifest themselves, and thus save the child from days, or perhaps weeks of suffering.

SHEDDING OF THE TEMPORARY TEETH.

From the fact that in almost every instance these teeth have no roots when they fall out, or are extracted, some have supposed that they were only attached to the gums. Others have imagined that the roots were gradually worn away by the crowns of the second set, as they arose out of the jaw. Mons. Fouchard thought that some corrosive chemical fluid was supplied by nature, which ate away the roots; while Mons. Jourdain is of opinion that they are removed partly by some chemical fluid exuded at that particular time, and partly by being worn away by the permanent teeth. Others have thought that nature has supplied the blood-vessels surrounding these organs with sufficient absorbing power to enable them to carry away the roots of the temporary teeth, little by little, and to deposit them in the roots of the permanent set. That the blood-vessels do carry away the substance of the roots, there appears to be no question; but it seems to be a matter of great doubt

whether these absorbent blood-vessels act directly on the root itself, or only carry it away after it has been disintegrated by some chemical fluid exuded for that purpose. It will be sufficient for us, without going into any speculations in the matter, to know that the roots of these organs *are* carried away by some agent, and that at about the seventh year they begin to get loose, in nearly the same order in which they came in, and that, by the end of the fourteenth year, all these useful, but frail little organs, having fulfilled the purpose for which they were formed, have fallen out, and been replaced by their permanent successors, which, being intended for hard service, and, as their name indicates, to remain for life, are much larger, stronger and more dense in their structure, than those which preceded them.

Although, according to the general law of nature, we always expect that these teeth will all be removed by the end of the fourteenth year, such is not invariably the case. Dame Nature sometimes plays off some of her freaks here as well as elsewhere, and we now and again, find one or more of these deciduous teeth remaining in the mouth till late in life. Usually, when these remain, the permanent ones do not come in, but, occasionally, both are found in the mouth at the same time.

EXTRACTING THE TEMPORAY TEETH.

Dr. John Taylor, than whom we can scarcely find a better authority, in speaking to the question : " When and under what circumstances should teeth be extract.

ed, to secure a regular and symmetrical denture?" says, "Delabaire considers the eruption of the teeth as a natural parturient effort, and maintains that, as such, it should be left as much to the natural efforts of the economy as possible. I believe that parents, and often dentists, inflict more injury than benefit, by untimely interference. That there are numerous cases, however, which require aid at our hands, cannot be doubted; and there is no subject in the whole range of dental practice, more difficult to definitely define, than this. The irregular manner in which the temporary teeth are shed and the permanent erupted, give continued cause for change in practice; and yet there are certain rules that, perhaps, should never be departed from."

The common opinion seems to be, that, as these teeth are to remain in the mouth but a few years, they may be removed at any time, without doing serious injury to the jaw itself, or the permanent ones. Scarcely a day passes that the dentist is not called on to extract one or more of these teeth, "to make room for their successors." Nothing can be more fallacious. Dr. J. D. White says, "What business has a dentist to interfere with the half completed evolutions of nature in her most beautiful and complicated developments? We can excuse bad work, where one is called upon to do the best he can, when his services are required, but we have no patience with intermeddling. There can be but two causes given in explanation—the one is want of moral responsibility, and the other ignorance."

Nature never works by halves, and when she planted the deciduous teeth in the jaws, she intended them to remain there until the permanent ones should be

ready to take their places. Whenever one of these is extracted, at a considerable time before its roots are absorbed, the jaw, which, immediately before and during dentition, should be rapidly expanding, not only ceases to enlarge at that point, but really appears to contract, thus leaving too little space in the arch for the permanent tooth, and it is, in consequence, thrown out of its natural position. The following homely remarks from a popular writer are to the point. "The most horrible deformities we have met with were caused by premature extraction of the deciduous teeth, and I account for it in this wise: The bone, as well as the soft tissues of the body, is generally repaired with a denser and less porous material than the original matter—therefore, we claim that when a deciduous tooth is removed before the permanent one is ready to take its place, nature goes to work to repair the injury, by throwing out ossific matter and absorbing the alveolar process. The alveolus loses its mechanical support of the tooth in the alveolar cavity, and the jaw its natural wedge, that prevents contractions. The permanent tooth, at the proper time, moves upwards or downwards, as the case may be, till it comes in contact with the callous or scar in the bone, when, like a plant with a shingle laid upon it, it seeks its easiest chance of egress."

It is true that very serious mischief is sometimes the result of allowing the temporary teeth to remain in the mouth too long, by which means the permanent ones are forced either too far backward or forward, causing as great irregularity as the too early extractions; but, as a rule, it is better to let nature take its own course in the matter, until the permanent tooth begins to show itself.

PRESERVATION OF THE TEMPORARY TEETH.

In order that they may be preserved in a healthy state; it is requisite, in the first place, that the teeth should be made of good materials. Phosphate of lime composes the greater part of their structure, and if the child be fed on food which contains too little of this salt, it is pretty certain that the teeth will be defective. Analysis shows that nearly all the lime salts contained in the different kinds of grain, are found in the outer shell, which, under the name of bran, is usually thrown away or fed to animals; but the fine flour contains none, or almost none, at all. It can easily be shown that the lime, which goes to form the teeth, is extracted from the food, and carried to them by the blood-vessels; and as the bone-making material is nearly all found in the bran, it is evident that *unbolted meal only should be used in preparing all the farinaceous food for children*. So long as they are fed on white bread, and pastry, made from fine flour, so long will one of the chief causes of bad teeth remain. The use of Phosphate of lime, prepared by the chemists, has done a great deal to overcome the mischief which has arisen from the too general practice of eating bread from which all the lime has been taken. Too much honor cannot be given to those who first promulgated the idea of employing artificially prepared Phosphate for this purpose; but is it not much more in accordance with the natural economy, to draw the material for our bones and teeth from the food we eat, as it was designed, than from artificial sources?

In the next place, they must be kept clean. Nothing external to the system has a more deleterious influence

on their well being than the want of cleanliness. Once, at least, in each day, they should be thoroughly brushed. As children do not sufficiently appreciate the benefits to be derived from this practice, parents should see to it carefully. If the brush be used but once a day, it is far better that it be at night, before retiring, so that all particles of food may be removed from between the teeth, which, if allowed to remain and decompose, often does great mischief. When decay has actually commenced, no time should be lost before consulting some dentist, as, in most cases, the decay may be arrested by filling, and the tooth be preserved till the roots are absorbed. Even after the decay has proceeded so far that the pulp has become exposed, and the child suffering intense pains from it, all irritation and unpleasantness may frequently be removed, and the tooth be rendered useful again, by destroying the nerve, and carefully and properly treating the nerve cavity and gums. While these rules will be found sufficient for most children, it must not be forgotten, that, unfortunately, many are so much affected by disease from their very birth, that no amount of care can save their teeth effectually; still, they may be spared a vast amount of suffering by proper attention.

THE SIXTH-YEAR MOLARS.

There are four teeth about which, in the minds of most persons, there is a great lack of information. These are the first four molars of the second or permanent set, which are erupted, usually, about the sixth year. They come into their places, behind the second molars of the temporary set, at a considerable length of time before

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any of them have fallen out, and so gently and quietly has their eruption been effected, that the child itself even, is not aware of it. At birth, the form of the jaws of the child, is about the half of a circle, but, as soon as the teeth begin to appear, the arches become somewhat elongated, and this elongation continues until they are about three times as long, from front to rear, as they were at birth. At six years of age, instead of being the half of a circle, they have expanded so much that they form nearly half of an ellipse, giving room enough for four new teeth, behind the original ten. Let it be remembered, that there are but ten teeth in each jaw in the first set, and that these four new molars are the first, of the second set, that are erupted, so that, usually, there are twelve teeth in each jaw, for a short time, before any of the first set are lost.

The position in the arch, of these four molars, is of peculiar importance, standing, as they do, just midway between the point of the chin and the angle of the jaw, so that they really have more hard service to perform than any other four teeth. They are placed just in that part of the mouth where the tongue and cheeks most naturally place the largest portion of the food to be masticated; and, more than all, they are the largest teeth, and, consequently, the best adapted, by their broad grinding surfaces, to the crushing and chewing of all the harder substances which partly compose our diet. It is because they are so placed in the jaw, that there can be a greater amount of force applied at that point, and because they are so well adapted for cracking, crushing and grinding, that children use them so much for cracking nuts, bits of hard candy and other

substances, for which older people find it necessary to use a hammer. The using of them in such a rough, careless way, is, too often, one of the causes of their premature loss, and children cannot be too strongly cautioned against it; for, some cause which it is not necessary for us to consider now, these sixth-year molars are not usually as well formed, or rather, the materials of which they are composed do not seem to be as compactly put together as in the other teeth, and they are, in consequence, much more subject to decay. Being very friable, the enamel is easily fractured, and the fluids of the mouth gradually work their way through these fractures to the dentine, when the decay goes on so quietly and painlessly that no notice is taken of it till the pulp is reached, and the tooth lost. As none of the first set have fallen out, it is exceedingly difficult to make parents understand that these four molars do not belong to the temporary set, and will not be replaced if lost, and the result is, that thousands upon thousands are allowed to decay away every year. But the mischief is not confined to their loss in mastication. Without the mechanical support of the teeth, the alveolus and jaw bones, which, as was before observed, ought to be growing and elongating, not only actually ceases to expand, but, as some writers assert, *positively* contract, leaving too little space between the bicuspids and the angle of the jaw for the second and third molars; and, last but not least, giving the countenance a shortened, pinched and unfinished appearance. Therefore every child should be taken to some competent dentist at least once in every six months, and if any of these teeth are defective, have them carefully and properly filled.

FILLING TEETH.

The decay in teeth can be arrested and the teeth can be restored to usefulness. There is no longer any doubt about it. It has been done so often, and for such a length of time that the most ignorant are well assured of the fact. Aching teeth, and teeth with disease at the extremities of their roots, and even where there are abscesses discharging through the cheeks, can and are being saved every day. This is the most *important operation* the dentist is called on to perform. Not only the life and health, but the future usefulness of the teeth which are decayed depend on the *skill* and *care* of the operator. The idea of arresting the decay of the teeth by filling, is not, as many suppose, one of recent date. A great many futile, and a few successful attempts to accomplish this object, were made two or three centuries ago. When we look at the means employed for the purpose in the earlier days of tooth-filling, we feel inclined to smile. So little was known about the teeth and their diseases, that those most skilled in the dental art, in those days, were able to do little more for their patients than to extract the teeth that were painful, to clean off the deposits of salivary calculus, to open the abscesses which formed at the roots of ulcerated teeth, and to apply astringent washes to the gums, with the hope that the contracting and puckering of the outside would heal the diseases within. Here and there a dentist bolder than his fellows would attempt to stop the decay of the teeth, by filling them with some substance, usually a compound of wax and some of the resinous gums; and it is said that at one time a composition closely resembling the bone-filling

of modern times, was used for this purpose. One mode of filling teeth, which proved of some value so far as the molars were concerned, was as follows: The cavity was cleaned out as well as it could be with a knife, when a musket shot as near the size of the cavity as possible, was selected and pressed into it. The jaws were then brought firmly together, and the shot forced into the cavity till the teeth met. If the shot filled the cavity perfectly, it would preserve the tooth till the lead wore out, which, from the soft nature of the metal, would soon be the case. At the present time this metal is never used. Its poisonous properties are such as to prevent its ever being employed, even if there were no other objection to it. Various materials for filling teeth came into use, as the knowledge that they could be preserved at all became general. Bits of bone and various kinds of stones were pulverized finely and mixed with melted sulphur. This compound will undoubtedly preserve the teeth that are filled with it for a short time, but the constant contact, and disintegrating action of the saliva soon dissolves the sulphur, and allow the other substances composing the filling to fall out, and the decay to commence again. No doubt some *temporary* benefit was derived from some and perhaps all of these methods of filling, but no material was ever found that was *permanently* beneficial, and at the same time, perfectly innocuous, till the introduction of gold. It is now many years since gold was first employed for this purpose. It was in a very crude form when compared with the gold which is used now; but, crude and uneven as its fibres were, there are many persons now living whose teeth have been saved for thirty and even forty years by it; the teeth remaining as perfect in

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health and color as when they were filled. From the first it has been the study of both the dentist and the chemist to so prepare pure gold that it could be most easily introduced into the cavities in the teeth, and be most solidly condensed after its introduction; for success depends entirely upon the solidity of the gold. It must be condensed so thoroughly within the walls of the cavity, that no moisture can by any possibility pass through it, nor between it and the dentine, or the decay will proceed nearly as rapidly as if the tooth had not been filled. Within a few years it has been discovered that gold possesses the property of adhesiveness; that one piece can be firmly welded on to another, and the process carried on indefinitely, provided everything is kept *perfectly dry*. It is said necessity is the mother of invention. The necessity of restoring teeth that were partially broken down to their original form for purposes of mastication and articulation, has stirred up the inventive faculties of the chemist, till he has produced such fine preparations of gold, that it seems as if perfection has nearly been reached. Now, the skillful dentist is able, by the adhesive properties of this metal, to restore many teeth that are one-fourth, or even one-half broken away, to their original form, and when neatly done the appearance of the teeth is but little impaired, whilst the usefulness, both for speaking and chewing is as great as ever. Pure tin, beaten into thin sheets, is the next best material for filling teeth. Unlike lead, it is not a poisonous metal, and it may be used with perfect safety in those teeth where the grinding does not wear it out, but it is too soft to last long where it is put to much use in mastication: Unfortu-

nately it is liable to oxydation, and consequently discoloration, by the fluids of the mouth, the discoloration frequently extending to the dentine, thus rendering the teeth quite dark in appearance. For this reason it can only be used in the back teeth. Another material often employed is amalgam. It is easily introduced into the cavities in the teeth, as it is used in a plastic state, and becomes hard by standing. On account of its being so easily manipulated, it is frequently inserted in such a slovenly manner that the saliva easily finds its way between the walls of the cavity and the metal, and the decay commences again. Although it has preserved great numbers of teeth, when the operation has been carefully performed, still there can be no doubt that its use has been followed by an untold amount of mischief. Silver is one of its component parts, and it is a well known fact that the saliva oxydises it more rapidly than almost any other metal. It is combined with mercury, which, too, is very rapidly oxydized by the fluids of the mouth. It is also an active poison. Many well authenticated cases of salivation from the use of amalgam have been reported in the dental and medical journals. It may, perhaps, be judicious to use it in extreme cases, but in such only.

There are numerous other compounds employed for filling teeth, such as Artificial Bone and the various preparations of Gutta Percha, which may do well enough for a short time, but they soon dissolve and leave the tooth in as bad a state as it was before it was filled at all, consequently, they should only be used for temporary fillings. There is an old maxim among our best dentists, that "a tooth that is worth filling at all, is worth being well done." It ought to be an *axiom* with

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every Dentist and every patient, and, as gold is emphatically *the material* for preserving the teeth, it should almost invariably be employed.

Objection is sometimes made to the cost of having teeth filled with it, but if it be the best material for this purpose, as it most certainly is, it is the cheapest in the end.

ARTIFICIAL TEETH.

Artificial substitutes for the natural teeth have been used, to a greater or less extent, for a great length of time. It is said that Hippocrates inserted teeth mounted on gold, more than two thousand years ago.— However that may be, we know that the practice has been quite common for more than a century. It is generally supposed that ivory was the first, and for many years the only substance employed for this purpose. It was carved into the form of teeth, with a hole passing literally through each tooth. Ligatures were passed through these holes and fastened to the natural teeth. The ligatures were sometimes made of thread, sometimes of silk, but more frequently of some metal. Of course the artificial denture could not be retained in the mouth by this kind of fastening, where there were no natural teeth remaining.

In such cases it was customary, after obtaining a cast of the mouth, to take a piece of ivory large enough to cover the whole of the palate and carve it away, till it fitted the mouth as well as it was possible to make it. But the possibility of carving anything to fit each individual mouth, was so perfectly impossible, that the wonder is that anybody was ever to keep them in their mouth at all.

The plate was held in its place by means of metal springs passing from one jaw to the other. As the air could pass readily between the natural palate and the artificial one, the enunciation was materially affected. Added to these defects, ivory like all animal substances, is subject to decay, and consequently, to an offensive smell.

Then, too, it is porous in its nature, and readily absorbs the saliva and whatever is dissolved in the saliva; the fermentation and decomposition of which, still adds to its disagreeable odor.

Human teeth were also used, as artificial substances. These were retained, either by being pivoted to the roots of the natural teeth, or to plates found from some other equally objectionable animal substances.

It was quite a common thing for Dentists to carve an artificial palate from the tusks of the Hippopotamus, and attach human teeth to it by means of pivots. Just fancy what the breath of a person using such a set of teeth must be! Ivory teeth, too, were frequently fastened in the same way.

The tusk of the Hippopotamus, Calves' teeth, and the teeth of several other animals were often used for teeth in the place of ivory. But no matter which was used, no reliance could be placed on it. The best was only less offensive than the others.

About the year 1788, Mons. Nicholas Dubois De Chemant, a Surgeon of Paris, conceived the idea of employing some mineral compound, for forming artificial palates and teeth. He says, after speaking of those found from animal substance. "But, as teeth of this kind require to be renewed frequently, they occasion

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very great expense; and even, notwithstanding their frequent renewal, they always produce a bad smell. I was induced from that time to reflect on the possibility and the means of making teeth and sets of teeth of durable and incorruptible materials. I examined almost all the substances of the mineral kingdom, and at length, composed a paste, which, when baked has every desirable advantage." His invention was a great step in advance of any of his predecessors. In 1789, the Royal Academy of Sciences examined sets of teeth made of his composition, and issued a lengthy report in its favor. Commissioners were appointed by the Faculty of Physic, "to examine the new teeth and sets of teeth invented by M. De Chemant, Surgeon," who reported in most flattering terms, as did, also, the Faculty of Medicine, in the University of Paris.

Many learned men, both in England and France, among whom was Doctor Jenner, the discoverer of Vaccination, were so thoroughly convinced of the value of M. De Chemant's invention that they gave him the highest testimonials in its praise. Notwithstanding all this, the public which was to be most benefited by the new style of teeth, refused to use them, and still preferred those made from ivory,

In course of time some one discovered that thin plates of metal could be so stamped as to fit the palate much more perfectly than the old blocks of ivory had done. This was another great advance in the Dental Art. A good number of the metals were tried from time to time, but none was found to answer the purpose as well as gold, and that has become almost the only one now in use, as the fluids of the mouth act but little upon it.

Even when human teeth, or teeth made from ivory were used, they were far less objectionable than when mounted on plates made from the Hippopotamus' tusk.

The invention of mineral, incorruptible teeth was too grand a discovery to be lost, even though the public did refuse to use those made by M. De Chemant. His teeth were, no doubt, so clumsy and ill formed that no one would now think of using them, still they were *incorruptible and inoffensive as to smell*, and it was only necessary to let this be well understood, and the teeth to be better formed, to bring them into more general use. It takes a long time to bring most inventions to perfection, and such has been the case with mineral teeth; when compared with those made some twenty years ago, the teeth of to-day are vastly superior in every respect. Another forward step was made when it was discovered that mineral teeth could be mounted on metal plates. One would suppose that no person would for a moment wear a set of artificial human teeth, when he could get a set of incorruptible ones; but, we do occasionally meet with one, which has been made in the Old Country, within the last few years.

So far as is known, no teeth made of animal substances have been mounted on gold plates in this country within the last twenty-five or thirty years.

Mineral teeth alone are used here, and so well skilled have the teeth manufacturers become, that thousands upon thousands of American teeth are sent to Europe every year. One of the leading manufacturers of artificial teeth in Philadelphia, in giving some statistics in regard to them in 1853, wrote as follows:

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"Twenty years ago, perhaps not more than two hundred and fifty thousand teeth were manufactured annually in the United States, and probably less in Europe. Since then, the demand has been continually increasing, owing in a great measure to the rapid improvements made from year to year, and the more perfect applicability to the purposes designed, combining beauty and utility to such a degree as to leave almost nothing more to be desired. At the present time, there are not less than *two millions* of mineral teeth made annually in this country, a part of which find their way back to the country of their invention.— There is probably a capital approaching three hundred thousand dollars invested in this business alone, giving employment to a large number of persons, many of whom are females."

Of the different methods of mounting teeth, little need be said, all of them having more or less merit. Sets constructed after some of them, have been beautiful, but not valuable, while others have been just the opposite. Teeth mounted on India Rubber plates have proved to be the most useful, and when well done, they are very beautiful. Simple as the construction of a set of teeth may seem to a person who knows nothing about it, it really is one of very great difficulty, and requires a large amount of patience and perseverance to accomplish it successfully. In the first place it is necessary to get an exact impression of the mouth in some soft substance. Some Dentists use nothing but warm beeswax for this purpose; others use nothing but plaster of paris; others gutta percha, etc, etc.; but whatever the substance may be, it must be put into the mouth

and pressed firmly against that part of which it is necessary to get the impression. At best it is a most unpleasant thing to have ones mouth nearly filled with wax or plaster, or whatever else is used, and few persons will bear it patiently. Now, very much, in fact, all, depends upon the impression being correct. The Dentist knows well, that if his impression is a failure, his denture will be so too, and endeavors to induce his patients to be patient, and allow him to have full control of the mouth, generally he succeeds, but sometimes he is obliged either to abandon the case, or construct his artificial denture on a model that he knows is not perfect. Of course "the teeth don't fit," as the saying is, and the Dentist is blamed for his want of skill, when he is only partially in fault. In the selection and arrangement of the teeth, the Dentist is supposed to be the best judge, certainly, he ought to be; but sometimes he is not allowed to exercise his judgement, for unfortunately, people have peculiar fancies in regard to the appearance of the teeth.

Quite frequently, when a person has had large, dark coloured, ugly teeth, he will insist that his artificial set shall be very small, very white, and very regular in their arrangement. In fact, almost all, when having new sets made, wish to have them as regular as possible, and the Dentist is compelled to construct them in that way. It has been said that "slight irregularity in arranging, gives grace, ease and beauty to the denture, does away with hardness of outline, and produces an expression more natural and life-like than when situated in even, line-like procession." In the matter of the color of the teeth, the Dentist ought, from his know-

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ledge and experience to be able to decide, but, usually is met with, "I want the whitest teeth you have got," and is too often forced to yield in part, if not altogether, to the wishes of his patient, and make such a selection of teeth as to color, as he knows will be entirely out of character with other features.

The teeth of persons advanced in life, usually become somewhat discolored or rather, they assume a more opaque appearance than they did in youth, but the Dentist finds the greatest difficulty in convincing many quite old people, that any but the whitest teeth will be best suited to them. "The object of the Dentist when he inserts artificial teeth, should be to imitate the lost organs as nearly as possible, or at least to make such substitutes as will suit the case. If we examine all the sets of natural teeth that come under our notice, we shall find that no two are exactly alike, and yet many of them are very handsome, far beyond any artificial substitutes that we can expect to make, and what generally constitutes their beauty, is the harmony with which they agree with the other features of the face. Teeth, which would be handsome in one mouth, would be decidedly ugly in another. A person with a full, round face, may have short thick teeth, worn off half way to the gums, and yet they may give a better expression to the mouth than other shaped teeth would; another tall, thin person has long narrow teeth, the upper row lapping the under very much. These are just the teeth to give a pleasing expression to his face. Between these two extremes we have every variety; some with jaws so narrow and contracted that their four natural incisors scarcely occupy space enough for two, and others with mouths so large that we can hardly find teeth wide enough to fill the space. Again we have patients of all ages, requiring artificial teeth, some of sixteen, others of sixty. Natural teeth show the effect of time and wear, as much as any of the other organs of the body. This is seen even in animals, whose teeth are formed much more regularly and uni-

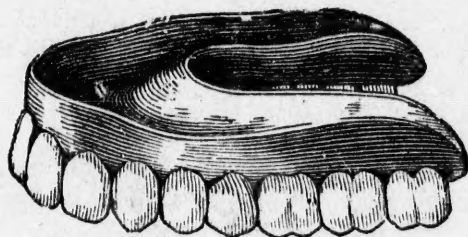
formly than those of man. They are criteria by which we judge their age, and we can tell, after they have been extracted from the jaw, whether they belonged to the old or young animal." The Dentist, therefore, *should so construct* his artifiical sets of feeth, that they will preserve, as far as possible, the natural expression of the countenance, but the peculiar ideas which many people have, often prevent his doing so, and the consequence is, that about nine person out of ten who wear artificial teeth, are really disfigured, instead of being improved. As artificial teeth have become common, it is no unusual thing for young people whose teeth have become somewhat effected by decay, to allow them to be lost, without an effort to preserve them, as they say, for the purpose of "getting a pretty set of new ones."—They seem to think that they can use their "new ones" for mastication as well as they ever could their natural ones, and to their shame be it said, many unscrupulous Dentists encourage them in this foolish idea.

If a person have lost his natural teeth, an artificial set will be of untold benefit to him, so will an artificial leg to a man who has been so unfortunate as to loose his natural one. But who would for a moment think of having a healthy leg taken off, and an artificial one substituted, simply because it was "bandy," or occasionally gave a rheumatic twinge; yet multitudes of people will have strong healthy teeth extracted and new ones inserted, simply because "they are crooked" or "they are too dark coloured," or too short, or too long, or too prominent, or too something else. The principal object for which the teeth were formed by the Creator, was the mastication of the food, and of course the more perfect the teeth, the more thoroughly will the food be prepared for the stomach, therefore, the person who for the sake of appearance has his natural teeth taken out, and others inserted, no matter how skilfully, is, to say the least, very foolish, and the Dentist who advises or encourages any one to do so is guilty of a great crime.

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C. S. CHITTENDEN,



DENTIST.

**OFFICE—King Street, directly opposite the
the Bank of British North America.**

*Entrance—The Staircase between the Drug Stores of Messrs.
T. Bickle & Sons, and Messrs. Lyman Moore & Brierley.*

HAMILTON, Nov , 1868.